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ABSTRACT

Some of the problems that exist for women in educational research and development and ways in which better opportunities for advanced levels of training and job advancement could be provided are described. Three stages of women's professional development are considered: the student years, the early postdoctoral years (one-to-five years after the degree), and the intermediate professional years. Problems related to the selection of women to graduate programs for training in educational research and development include: specific prerequisite course requirements; institutional requirements such as limiting financial aid to full-time students; differential expectations that are held for females and males by educational research faculty members serving on interview and review committees; and women's low expectations for their own careers. Both in the formal training in the classroom and in the informal interactions with other students and faculty, the woman student meets obstacles to her professional development. There is evidence to suggest that males are more often trained as research assistants while females are trained as teaching assistants. Problems faced by most women in the early postdoctoral years include the lack of postdoctoral training programs or internships for women in educational research, finding the initial postdoctoral job, and developing the professional skills that the job requires. Among the problems encountered by women faculty in the intermediate professional years are developing new skills, such as administration and budgeting; keeping up-to-date in areas of special research interests; and being evaluated for tenure, promotion, or a new position. (SW)

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RESEARCH MEMORANDUM

CONCERNS OF WOMEN IN EDUCATIONAL RESEARCH AND DEVELOPMENT AT THREE STAGES OF PROFESSIONAL DEVELOPMENT: STUDENT YEARS, EARLY POSTDOCTORAL YEARS, AND INTERMEDIATE PROFESSIONAL YEARS

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Introduction

The purpose of this paper is to describe some of the problems that exist for women in educational research and development and to describe ways in which better opportunities for advanced levels of training and for job advancement could be provided. This paper does not provide extensive documentation for the need for such opportunities since such information has already been collected (Lipman-Blumen, Stivers, Tickamyer, & Brainard, 1975; Tittle, Saario, & Denker, 1975; NIE/AERA Higher Education Component Meeting, Program to Increase the Participation of Minorities and Women in Education Knowledge Production and Utilization, 1976). Instead, this paper will focus on issues of concern to women in general, as well as to the special needs of women in educational research and development; specific kinds of training and opportunities needed for more women to become established in the profession will be suggested.

This discussion will deal with three stages of women's professional development: (1) the student years; (2) the early postdoctoral years (1 to 5 years after the degree); and (3) the intermediate professional years.

Student Years

When women seek to enter graduate programs for training in educational research and development, they may encounter a number of barriers that limit their professional development. The first set of these problems occurs in the selection of and entrance into the graduate programs, while the second set of problems occurs after the student is enrolled and completing her training.

Problems Related to Selection. The evidence shows that in top-ranked graduate schools a larger percentage of men than women are accepted (Solomon, 1974). It also shows (Lipman-Blumen, et al., 1975) that women members of the American Educational Research Association are less likely to hold a doctor's degree than are male members and that women are more likely than men to have attended graduate school on a part-time basis. What causes these differences?

One problem may be the criteria established by the graduate schools, themselves, for the selection of students. While it is unlikely that graduate departments of educational research and related fields would violate Title IX and indicate specific preference for male students, it is possible that apparently neutral criteria and unspoken beliefs and expectations make it more difficult for females than males to enter graduate training in educational research. For example, departments may state a preference for students with a strong background in mathematics. While this criterion appears to be both rational and neutral, it will tend to differentially affect females and males. Mathematics has been

clearly documented (Sells, 1973) to be one of the critical filters for the participation of women and minorities in many fields of work and study. While the basic solution to this problem goes back to providing for secondary school age young women and their counselors, the information necessary to demonstrate to them the importance of mathematics training for their future careers, other action can be taken in later years. This could include special training programs in mathematics and in other subject areas which can be identified to function as barriers to women in order to allow women interested in entering programs in educational research to meet the requirements. Such programs would be especially helpful to women who have interrupted their education for childbearing or who are entering graduate work in educational research and development after employment in other areas. In addition, research is required to determine the extent to which such prerequisite courses are really relevant to success in these graduate programs and in later professional employment. It may well be that not all the requirements currently set by most graduate programs in educational research are needed or, in some cases where it is appropriate for the student's planned area of specialization, some requirements can, perhaps, be waived.

In addition to specific prerequisite course requirements, graduate programs often impose rules and regulations which may, unintentionally, limit the enrollment of women. Institutional practices, such as failure to provide child care facilities, also contribute to this problem. Every effort should be made to have a review of institutional policies and the ways in which they may serve as barriers to women, minorities, and other

special groups of potential students. For example, residency requirements and limiting financial aid to full-time students may impose a particular barrier to anyone who has responsibilities other than as a student (individuals from low-income families and women are the groups most often affected by such policies). Tittle et al. (1975) state that over half of the institutions offering doctorates in education limit financial aid to full-time students. Some colleges or departments have imposed age limitations for entrance to graduate programs, apparently in an attempt to maximize the rate of return to the institution's investment in the student. Such restrictions affect all students who seek to enter graduate training in educational research after engaging in other careers, such as teaching or homemaking, but, again, women and individuals from low-income backgrounds may be disproportionally affected. Because these individuals may bring special insights and abilities to their new careers, age restrictions for students do not serve the best interests of the profession. Closely related to this topic is the recognition of learning from prior experience. Individuals with extensive experience as school teachers, administrators, or school board members may well (and should) resent being required to take a course, such as "The Role of the School in American Society," which is intended as an overview for entering students who, presumably, have had no prior introduction to the topic.

A more serious problem occurs during the credential review and interviews of male and female graduate school applicants. Different expectations are held for females and males by most people in our society, including many

educational research faculty. Thus, both in the selection of individuals for graduate programs and, later, for employment, certain widely held stereotypes such as:

- women are less intelligent than men,
- women do not have a real commitment to a career,
- women are irresponsible and emotionally unstable,

act as barriers to the selection of women. Additionally, interview committees may also want women to meet what they consider to be the cultural standards of "appropriately feminine" behavior, perhaps, for example, being nonassertive, as well as demonstrating the competencies required of males. Work by Costrick, Feinstein, Kidder, Marecel, and Pascale (1975) has shown that women who violate sex-role expectations are likely to receive negative evaluations. Materials are available to help individuals become aware of the sex-role stereotypes that they hold. These should be made available to all individuals who are involved in the selection of students for graduate programs in educational research. In addition, special training programs for faculty engaged in the selection of students should be designed to help these individuals learn to recognize these inappropriate expectations and to deal with student selection in a more equitable manner. Interview guides and other kinds of evaluation guides need to be developed to help those engaged in student selection to focus on the relevant competencies and experiences of the women and men being interviewed and to avoid introduction of extraneous topics into the selection process. Finally, there needs to be research (at the department and specialty level) to identify the kinds of prior training and experience that predict student and professional success in educational research.

One more problem related to the entrance of women into graduate programs in educational research lies with women's low expectations for their own careers. Part of the reason for this is that women, as well as men, may believe the kinds of stereotypes stated above. Even if they do not hold these particular stereotypes, women often are affected by the societal expectations for them and, as a result, may undervalue themselves and their own abilities. As a result, women may seek to enter less challenging graduate programs or programs in less prestigious institutions than will men of comparable ability; this may then limit their later professional opportunities. Such feelings of inadequacy may also be a factor in determining that women without family responsibilities are still more likely than men to enroll in graduate work on a part-time basis (which allows the opportunity to pretend that one is not fully committed to obtaining a graduate degree) as well as to women's greater likelihood of terminating their graduate work with the master's degree instead of the doctorate. Research is needed to determine the extent to which such attitudes are a factor in women's participation in graduate programs in educational research. Specific attitudes and their precursors need to be identified as well as intervention programs devised to rectify this situation. Women can be helped to overcome such attitudes by providing them with better information about careers in educational research and about other women's success in completing graduate training in this field. Materials for prospective women students in graduate programs should emphasize the importance of obtaining the doctorate rather than the master's degree, the advantages of attending full time

rather than part time, and should identify resources that can identify mentors and sponsors, and identify networks among women students.

Problems Related to Classroom Training, Sponsorship, and Mentorship. Selection for and entrance into graduate training is only the opening of the problems facing women students in graduate programs in educational research and development. Both in the formal training in the classroom and in the informal interactions with other students and faculty, the woman student meets obstacles to her professional development.

As she plans her courses and her area of specialization, the woman student may find that faculty members and counselors, because of the stereotypes that they hold about women, will tell her that certain courses and programs are not appropriate for her interests or important for her career, although male students may be encouraged to take these same courses. There is evidence to suggest that males are more often trained as research assistants while females are trained as teaching assistants (McNeal, McKillip, DiMiceli, Van Tuinen, Reid, & Barrett, 1975). Faculty members and others engaged in the counseling of women students need to be sensitized to the fact that they may hold certain stereotypes about women's aptitudes, interests, and capabilities. They also need to receive training that will help them overcome these stereotypes. Women students need to be aware that stereotypic thinking may affect the counseling that they receive and to be encouraged to make decisions based on their own individual career aspirations.

Faculty attitudes about women graduate students have been studied by Trow (1977). He found in 1975 that one in six faculty members

agreed that "female graduate students in my department are not as dedicated as the males" and that over one-third of the faculty members expressed reservations that women were not as likely as men to complete their graduate study and make important contributions to the field." He concludes that "if a significant proportion of college and university faculty have reservations about the likelihood of women graduate students finishing their degree and doing important work, then they are not as likely to give them the kind of attention and challenge they give to men."

In the classroom, women students may be treated differently than are male students. In the most extreme cases, this has resulted in a female being actively "cooled out" of classroom and/or laboratory participation by a hostile male faculty member. Recent social pressures for more equitable treatment of females have probably modified such treatment but some less conspicuous and often unintentional differences are still found in many classrooms. These include:

- Asking males to answer questions more often than females.
- Selecting males more frequently than females to demonstrate a process or to model positive behavior.
- Selecting females only as examples of inappropriate behavior or poor work, never as positive examples.
- Asking females questions that require only rote memory while asking males questions which require analytic reasoning or similar higher order processes.

Research in graduate classrooms and laboratories is needed to identify the differences in interaction between faculty and female students. Faculty should be made aware of the existing research on sex differences and classroom interaction, for example, Brophy and Good (1970), and sensitized to the possibility that they may be unintentionally treating male and female students differently. When differences in treatment are found, training programs should be available to help faculty overcome this problem.

Although the proportion of women in graduate programs in educational research is substantial when compared with many other fields, there are still many instances when women are represented in a department or a course only in "token" numbers. In such situations, especially when there is a lone woman, the woman may be subject to "statistical discrimination," that is, treated as if she resembles women on the average. Kanter (1975) points out that when a person is a statistical rarity s/he must spend more time establishing a competency-based working relationship. For women students, this may significantly impair their professional relationships with faculty and male students. An analysis of the number of women and minorities in each department and course needs to be made. When there is evidence that women or minorities are regularly found as "statistical rarities," steps should be taken to correct this situation. The simplest procedure may be to increase the recruitment of women and minorities. A second step would be to review counseling and other procedures involved in student selection of and placement in courses to determine if there are hidden biases, such as sex-stereotyping of women by counselors, which

account for this occurrence. In some cases, simple structural changes, such as offering a course at a different hour, may help to increase the number of women in the class. At the same time, faculty members and students should be acquainted with the literature on the kinds of stereotyping that affects "token" individuals. Training programs should be available to help individuals learn to overcome such stereotyping; this should include making faculty and male or nonminority students more sensitive to their behavior in dealing with "statistical rarities" and should also include training for women and minorities to help them to react appropriately when they are the victim of such stereotyping.

One of the most important parts of graduate school training is the sponsorship/mentorship that a student receives from one or more faculty members. Evidence reported by Sells (NIE/AERA, 1976), which indicates that women and minorities are less likely than white males to hold research assistantships in graduate school, serves as an indicator that women and minorities do not receive the same kinds of sponsorship as do white males. Research is needed to identify the causes for these differences. Among the hypotheses are: (1) women receive less sponsorship because they are more often part-time students; (2) male faculty fear that sponsorship of a female student may be viewed as sexual interest in her; and (3) male faculty may feel less comfortable working with females than males. After the causes of these differences in rate of sponsorship have been determined, specific intervention programs and treatments should be designed to overcome these problems.

The lack of sufficient numbers of female faculty is closely related to this lack of sponsors and mentors for women. This is due, in large part, to the low production rate of women doctorates in the 1950's and early 1960's. With senior male faculty often reluctant to take on the sponsorship of women students, the availability of senior women faculty becomes especially important. Additionally, these senior women can serve as role models for women students. Goldstein (1978) has found that having same-sex-role models has a positive impact on the academic productivity of scholars. "Ph.D.'s who had same-sex dissertation advisors published significantly more research than Ph.D.'s who had cross-sex advisors."

Departments of educational research that do not have women who are senior faculty should be strongly encouraged to seek such individuals when senior level positions are to be filled. However, the realities of the current academic market make it unlikely that many such openings will occur. Moreover, most departments with openings seek to fill them with junior faculty both for economic reasons and because of the high tenure ratio in many faculties. Consequently, alternative solutions are needed to make optimum use of the limited supply of women at the senior faculty level. One model is the Mellon Grant program currently under way at Tufts University. This program brings women outstanding in their fields to the campus as guest lecturers. The women are selected to "demonstrate an imaginative range of commitment and self-fulfillment. Such women are examples and mentors for Tufts women, who may then identify with that model of the person who has a strong sense of her own value, both to

herself and to society." Funding agencies and foundations could work cooperatively with professional organizations to identify senior women now working in research laboratories and other nonteaching settings who might then be funded to serve for a semester or a year as a visiting professor. In regions and areas where there are several institutions offering the doctorate in educational research, cross-institution cooperation and faculty exchange should be encouraged to give more students exposure to and contact with women faculty.

Unfortunately, however, not every woman who has achieved professional success is willing to take the time and make the effort to serve as a mentor and role-model for younger women. This problem, often described as the "queen bee" syndrome, results from the discrimination which affected these women as they tried to advance in the profession. Feeling that they had to "make it on their own," without the support of others, they may ask why they should now devote valuable time from a busy schedule to do something that will, as they see it, only increase professional competition and will not further enhance their position. What is needed is training programs for women who have achieved professional recognition in educational research to make them aware of the importance of mentors and support systems for younger women, to make them aware of some of the reasons for their ambivalence to serve as mentors and sponsors, to show them how helping other women may enhance their professional status, and to give them ideas about how to go about providing such support for younger women.

When the number of female faculty available to women students is limited, the importance of networks of peers is increased. Young women students in educational research, as in other fields, need to develop contacts with other women who share their professional interests, problems, and concerns. Such networks are especially helpful during the student years in helping young women deal with the role conflict which they may face as graduate students. Departments should encourage the formation and activities of special groups for women students. Professional organizations should also develop more active programs for women students and should, in particular, encourage the development of regional activities and groups for these young women.

However, women who attend graduate school on a part-time basis will face additional obstacles in making either contacts with potential mentors and sponsors or with a network of peers. The part-time student is rarely able to hold a research assistantship which, as was pointed out earlier, can often serve as the basis for becoming sponsored by a senior researcher. In addition, the part-time student misses much of the informal interaction with both faculty and other students which is an important part of professional socialization. As was mentioned earlier, we need to understand the reasons why women are more likely to be part-time graduate students than are men. Programs should be developed to address this problem and to make women aware of the career-limiting consequences of part-time enrollment in graduate school. Faculty should be sensitized to this problem also and, if necessary, provided with incentives to encourage them to set aside more time to meet and talk with part-time students.

Finally, it might be possible to adopt some of the flexitime or job-sharing models to the educational system to allow part-time students to do work as research assistants. Alternatively, funding might be provided to allow individuals who are part-time students to accept jobs as research assistants.

At the close of the doctoral program, as students are making decisions about dissertation research topics, another type of problem occurs. There is rarely much support or encouragement for the woman who wishes to work problems related to women's studies, for the minority women interested in black studies, or for any student who is actively involved in developing alternative, nontraditional theoretical models which challenge traditional thinking in education. Funding agencies should give serious consideration to supplying small grants for these types of dissertation research.

Despite all these problems, the proportion of graduate degrees being awarded to women in fields relevant to educational research (see Table 1) is increasing. But these doctoral recipients face an uncertain future. Faculty jobs are becoming increasingly difficult to obtain and the competition for research funds is keen. What happens to the woman doctorate in the first few years after she receives her degree?

Early Postdoctoral Years

One of the first decisions that a student must make upon completion of the doctorate is whether to enter into a postdoctoral training program or to seek employment. The data (NIE/AERA, 1976) show that "women are more likely than men to continue into postdoctoral study immediately upon completing doctorates in education knowledge production and utilization

Table 1

Doctoral Degrees Awarded by AAU Universities in 1969-72 and 1972-75 in Education, Psychology, and Sociology: Totals, to Women, and to Minority Women (Adapted from McCarthy & Wolfle, 1975)

	Total			Women			Minority Women		
	1969-72	1972-75	% Change	1969-72	1972-75	% Change	1969-72	1972-75	% Change
Education	8,132	8,344	2.6	1,952	2,595	32.9	171	334	95.3
Psychology	2,651	3,054	15.2	817	1,060	29.7	19	73	284.2
Sociology	1,236	1,310	6.0	278	411	47.8	7	39	457.1

related fields.... However, women may be more likely than men to accept opportunities for postdoctoral study which have relatively low prestige and only a limited effect in career enhancement." There appear to be few postdoctoral programs in educational research which are designated especially for women. Such programs would be valuable, especially for women who attended graduate school part time and for women who are seeking to reenter the field after time-out for childrearing. Foundations and funding agencies should be encouraged to support such postdoctoral programs.

Two other problems are faced by most women in the early postdoctoral years: (1) finding the initial postdoctoral job, and (2) developing the professional skills which this job requires. There are, however, some exceptions to this. The woman who has been employed in educational research in some capacity while completing the doctorate on a part-time basis may choose to or be forced by family circumstances to choose continuing in this same position. Her employer may be happy to make use of her new learning but unwilling to allow her to make the status change which might be expected to be associated with completion of the doctorate. The problems which women in education face in making status transitions have been well described by Graham (1973) and will not be repeated here. However, it is important to recognize that sex-stereotyping becomes especially critical at these transition points when, as Hennig and Jardim (1977) have described it, men are judged on their potential but women are judged on their accomplishments.

Initial Postdoctoral Job. With the exception of the somewhat atypical case where the individual does not change jobs after receiving the doctorate, most individuals are involved in job-seeking during the initial postdoctoral years. Many of the problems involved in hiring researchers are closely related to the problems connected with the selection of students for graduate school.

For example, as was the case with entrance criteria and policies, job selection criteria and policies may assume the traditional white male life style and, thereby, limit the hiring of women and minorities. To overcome this problem, every employer should examine job criteria to be sure that only items relevant to job competency are included. Additionally, employers should be encouraged to be more flexible in job structuring (using such programs as flexitime or job sharing) and to provide services, such as child care, that will make it easier for women to accept employment.

Evidence from one institution that is engaged in educational research (Malkiel & Malkiel, 1973) has shown that women with the same training and experience as men tend to be assigned to lower job levels. There is also considerable evidence that women receive lower salaries than men at the same educational research job levels (Tittle, et al., 1975). One hypothesis which has been advanced to explain these salary differences is the types of institutions in which females and males are employed. For example, proportionately more women faculty are found in junior and community colleges (which have relatively lower salaries) and fewer female faculty are in universities (where the highest academic salaries are found) (Astin & Bayer, 1972). Research is needed to identify the extent to which

male-female salary differences in various aspects of education are a function of the type of institution where the individual is employed, the type of work or subspeciality in which s/he is engaged, and previous education and experience. If evidence of sex discrimination in salaries is found, after these variables have been accounted for, a review of hiring and salary practices should be undertaken. Some of the mythical reasons for paying women lower salaries than men have been described by Sandler (1973). These are:

- Married women faculty members don't need as much money, so it's all right to pay them less.
- Unmarried women faculty members don't need as much money, so it's all right to pay them less.
- Academic women earn less than academic men because they aren't as well qualified.

Employers should be provided with training programs and materials to sensitize them to the kind of sex-stereotypes which lead to expectations that women can be paid less than men.

Another set of sex-stereotyped expectations held by employers are related to what they perceive to be the "appropriate" job interests of males and females. As was pointed out earlier, these kinds of beliefs result in women being channeled into certain types of occupational specialities, such as encourage women to teach rather than to do research. Training programs for employers should sensitize them to the sex-stereotypes which underlie such beliefs.

Women, after the doctorate as well as before, have lower expectations for their own careers than do men. Thus, the woman with a doctorate in educational research may seek employment in a less prestigious institution than would an equally able male. Women may also be more willing than men to accept marginal appointments which are not part of the career ladder. Such appointments will, of course, limit their professional advancement. For some married women there may be the expectation that their own career will be secondary to that of their husbands. This can result in these women holding a variety of low-level or temporary positions in different institutions rather than making more typical career advancement. Placing her own career second may also limit a woman's moving from institution to institution at points which would be best for her own professional development. Better information for women at the beginning of their professional careers about career opportunities in educational research, about salaries, and about the career success of other women could do much toward overcoming this problem.

Despite all the problems mentioned above, there is evidence that, in recent years, sincere efforts have been made to implement affirmative action in job recruiting. Thus, both Bayer and Astin (1975) and Cartter and Ruhter (1975) have reported that, by the mid-1970's, evidence of sex discrimination in first job placement and initial salary seemed to have disappeared. The critical question which they pose is whether "women with the same qualifications and accomplishments as men are advanced and remunerated in equitable fashion throughout their professional careers."

Career Development. The woman entering a new professional status must be socialized into her new role. As mentioned earlier, there are a variety of problems associated with learning a new role. These problems are frequently magnified for the woman in educational research, especially if she finds herself to be the "solo" or "token" woman in an employment group. As was described above, in the section on students, male faculty are often reluctant to take on the professional sponsorship of a younger female. The evidence strongly suggests that a male mentor has been important in the advancement of many prominent women academicians and administrators. This is partly because senior males are in stronger positions of power in most organizations than are females and because, as a consequence of this power, they can better facilitate the advancement of younger colleagues. Additionally, there is often a lack of senior women to help in the professional socialization of younger women. When a new woman is employed by education research and development organizations, a definite effort should be made to help her learn about the job. Senior staff members, females and/or male, should be specifically assigned to work with the new employee and to assist in her professional socialization. Special efforts should be made to see that both formal and informal professional development opportunities are communicated to women at the junior staff level. Ideally, this kind of professional socialization is provided without financial reward. However, in institutions where there is not a tradition of such help, financial incentives to senior staff who provide such support may be useful. In larger institutions, such as research centers or regional laboratories, it may be possible to hold a

regular series of workshops and training sessions to facilitate the professional development of small groups of women. Professional organizations might also help in providing information for the development of regional or topical networks for young women new to the field of educational research. Careful attention to professional socialization of women in organizations or departments that have never before hired a female is especially important if one does not wish to hear "we tried hiring a woman once, but it didn't work out."

There are a number of fairly specific problems that women in educational research and development face at the beginning of their professional careers. One is how to obtain research funding when one has little or no published research. Funding agencies should be encouraged to earmark a small percentage of their research grant funds to be awarded to individuals who have never before received a research grant and/or who have received their doctorate within the preceding five years. A closely related problem is becoming aware of institutional or departmental policies and practices that provide research support and the way to obtain such funds. For example, small amounts of money may be available in an institution for faculty to pursue personal research activities that have not received outside support or for traveling to participate in professional meetings. Departments and other groups having such funds should be monitored by senior staff to see that this availability is announced in writing and is distributed to all, not verbally communicated through the "old boys network." In those cases where there is no such funding, mini-grants could be made by funding agencies, or professional organizations could

provide travel grants for young researchers to attend professional meetings. Still a third problem related to funding is that of obtaining support for research related to women or for research that challenges traditional practices. Funding agencies should be encouraged to designate a small proportion of their grants to research issues of particular concern to women and minorities and to innovative, high risk research.

However, obtaining funding is not the only kind of problem facing the woman new to the field of educational research. The individual employed in a college or similar setting must meet heavy demands for both teaching and research if s/he is to obtain tenure. One solution to this problem is to provide young researchers with pretenure sabbaticals that will give them a semester free from teaching responsibilities to concentrate on research.

Still another group of professional development problems centers around developing good working relationships with others. The woman newly employed in educational research and development must seek out and develop professional relationships with older researchers who can provide her with the kind of sponsorship and mentorship discussed earlier. Brodsky (1974) found that male graduate students (41%) more frequently report that they were offered authorships for research participation than did females (19%); similar differences probably exist for young researchers.

The woman newly employed in research also needs to expand her network of peers from her graduate school days and find additional contemporaries who share her professional interests. Professional organizations could act as a clearinghouse to help young researchers, isolated in institutions

where appropriate sponsors and mentors are not available, find established researchers who can act in this capacity for them. Funding agencies could sponsor conferences for all their women research grantees and grantees doing research related to women. The purpose of these conferences would be to allow researchers, both young and more experienced, to share their interests and problems in a nonjudgmental, mutually supportive atmosphere, to learn from each other, and to establish networks and linkages for possible future collaboration.

Finally, the young woman newly employed in educational research may find that, as she works with male peers, her youth and sex place her in a double bind and sexually explicit advances may be made. The handling of such problems is a very individual matter, but many women report that focusing the professional interaction on the skills and competencies required and being task-oriented helps to reduce this difficulty.

Intermediate Professional Years

There is no magical demarkation between the first five postdoctoral years and the intermediate professional years where one suddenly grasps how to "put it all together." Instead there is a gradual growth in professional competency. Thus, many of the problems discussed in the preceding section are equally applicable here.

The intermediate professional years do provide, for most people, a chance to stop and think about where one's career is going or might go. This is the time to ask, "Do I want to pursue this same kind of research

for the next 10 or 20 years, or is it time to think about doing something new or, perhaps, do my talents lie more in the administration of research or other activities than in doing research itself?"

Closely tied to this reevaluation of oneself is the need to develop new skills or to update skills. For women concerned with upward mobility and/or status transitions, whether these be directing a group of researchers or becoming an academic administrator, new skills such as personnel management and budgeting become important. In some cases, these can be learned from sponsors or mentors. In other cases, it may be desirable for professional organizations or funding agencies to sponsor workshops or training programs to increase the research management and budgeting skills of women. Funding agencies might also support internships in research administration either in large research centers and laboratories or in their own agencies.

Keeping up to date in one's own area of special interest is a problem for every professional researcher. It is a special problem for women who may have interrupted their working years for childrearing or who worked part time during those years. Continuing professional education programs are already widely available and show evidence of further future expansion. Training programs held in conjunction with professional meetings also serve as a means of further education. Many colleges provide faculty with sabbatical leaves which can be used as an opportunity for professional refreshment. For individuals in research centers and other such institutions which do not provide sabbaticals, funding agencies could provide awards for women who wished to improve and update their research

skills. Special programs are needed to prepare for professional reentry of women researchers who have taken time-out for family responsibilities.

Perhaps the most difficult problem faced by women in the intermediate professional years is being evaluated, whether for tenure, promotion, or a new position, especially if their major work has been in an area of specialization outside those typically done in the department or institution. (Women's studies and nontraditional educational programs have been mentioned earlier as examples of such areas.) Graham (1970) describes these as "culturally biased standards in such evaluation." As has been discussed elsewhere (Ekstrom, 1976):

> When women faculty are evaluated for promotion, the criteria may reflect male biases about what constitutes relevant experiences for achieving a higher ranked position. Additionally, the 'significance' of an activity or an area of specialization, for research and scholarship, is defined in terms of what the male-dominated educational community has, in the past, defined as important and 'legitimate.' Rarely are the different values held by female academicians taken into consideration and, as a consequence, new types of scholarly work by women may be depreciated by males when they review female faculty for promotion or for professional honors.

It would be of great assistance if professional organizations and/or funding agencies were to serve as a clearinghouse to identify "established" women in the field of educational research who could assist in the evaluation of young women researchers.

Even when women are working in the same areas as men, differential evaluation can and does occur. For example, The American Psychological Association Task Force on Women Doing Research found that "male researchers are rewarded more often with career advancement than females with comparable

publication experience." Astin and Bayer (1972) report that men who publish advance more quickly than women with comparable publication rates. Sophie (1974) has pointed out that, although male psychologists publish more than females, the level of education, the institutions where these individuals were employed, and the positions held account for most of the difference.

Closely connected with this process of evaluation is the problem of attaining professional visibility. This is achieved not only by publishing of research findings and presenting reports on research at professional meetings, but also by active participation in professional organizations by serving on government panels and committees, and by maintaining professional information networks with others doing similar research. However, the woman researcher may have fewer opportunities which help her obtain such visibility. For example, Brodsky (1974) reported that male graduate students were more likely than females to be invited to meet recognized scholars outside their department.

In the past (Lipman-Blumen et al., 1975) the participation of women in the activities of professional organizations has been relatively low. However, this is now undergoing considerable change. Similar evidence for women on college faculties (Robinson, 1973) shows that women were given fewer and less prestigious committee assignments than were men. More recent anecdotal evidence suggests that women who are senior faculty may now be dealing with heavy overloads of committee responsibilities as institutions frantically search to have a "token female" on every committee. It is recommended that professional organizations continue their

efforts to encourage the more active participation of women and that women in the intermediate professional years be encouraged and helped to learn how to use their mentor, sponsor, and network contacts to attain professional visibility.

As the woman in educational research and development moves into more responsible positions, she will find that she is often supervising the work of males. Many men are uncomfortable with or resentful of female leadership. Training programs are needed for women researchers who are project directors and/or administrative interns to teach them how best to deal with the interpersonal dynamics of such situations. Strategies which help in business organizations, which are bringing women into management, have been described by Gordon and Strober (1975) and would serve as a good basis for developing training models for research centers and laboratories and similar institutions.

Usually, to achieve career advancement women must take a new position or relocate to new organizations. Even if this does not occur, advancement usually involves a status change within an organization. One problem related to advancement is the stereotypic kinds of beliefs about women such as:

- Women lack career commitment.
- Women are ambivalent about success.
- Married women don't want really demanding jobs.
- Married women don't want to be promoted to jobs that would give them higher status than their husbands.

Even when such beliefs are not voiced, differential evaluation of males and females may occur. For example, individuals in leadership positions are expected to be independent and assertive. These are positive characteristics for a male in our society but are less acceptable for females who, when they exhibit such behavior, may be called "tough and bitchy." Another aspect of this problem is that women are less willing to take risks in making career changes than are men. Counseling programs for women considering career changes are needed to emphasize the positive aspects of such risks and to lower fear of success. Internships could provide women contemplating making status changes with a less risky way to "try-on" the new role. Males evaluating females for promotion need to be made aware that sex-stereotypes about women not wishing to become leaders are false.

A final problem facing women in these intermediate professional years is the time demands involved in helping other women to achieve professional recognition. The need for mutual support among academic and professional women has been well documented (Blaska, 1976). It is important for professional organizations to encourage their women members to serve as mentors and sponsors for younger women. Special contact hours could be set aside at meetings to facilitate this kind of interaction. Professional organizations should also act as clearinghouses in helping younger women develop their own networks. Funding agencies may wish to give financial incentives to established researchers who involve young women and minority group members as research colleagues and collaborators.

SUMMARY STATEMENTS OF PROBLEMS AND SUGGESTED SOLUTIONS

The following statements address some of the problems of women in educational research at three stages of their professional development; possible solutions to these problems are also presented. The order of the statements does not imply any prioritization of the problems and solutions.

At each level, attention should be given to the formal and informal education of women researchers. The availability of funding for this education as well as for research by and of special interest to women must be addressed. Within the educational system, the organizations, institutions and agencies which employ educational researchers, and the professional organizations concerned with educational research, must give attention to the professional socialization of women in educational research and provide sponsorship for them. Additionally, networks should be established to provide mutually supportive interaction among women researchers at all stages of their professional development.

I. Students

A. Selection

1. Problem: Requirements which may make it more difficult for women than men to gain admission to graduate training, e.g., mathematics courses.

Solution: Better information for women in the undergraduate and secondary school years about graduate school requirements; special training programs to allow women to meet these requirements; review of requirements to determine real relevance to

success in the graduate program and in later professional life and dropping of inappropriate requirements.

2. Problem: Rules, regulations and practices which may limit entry of women into these programs, e.g., residency requirements, age limits, financial aid limited to full-time students, failure to provide child care, failure to recognize learning from life experience, etc.

   Solution: Institutional review of practices to determine their impact on women and changing policies as needed; provision of financial aid for part-time students; provision for child care; recognition of relevant life experiences as appropriate alternatives to formal instruction, etc.

3. Problem: Different expectations for and evaluation of females and males, e.g., beliefs that women lack career commitment; wanting women who meet cultural standards of "appropriately feminine" behavior as well as the competencies required of males.

   Solution: Training programs for faculty to sensitize them to their different expectations and beliefs and to help them overcome these; development of materials to help departments become explicit

about the competencies they wish all students to have and to avoid introduction of extraneous topics into the evaluation.

4. Problem: Women's unrealistically low expectations and their lack of self-confidence about their career potential.

   Solution: Better information about women's careers, the importance of completing the doctorate, the quality of students entering various graduate programs, and about the mentoring and networking system in the profession and its relationship to graduate school departments. Research to determine the extent to which this is a determinant of choosing part-time rather than full-time graduate school attendance.

B. Training - Classroom

1. Problem: Channeling of women into certain areas, sub-specialities, or courses because of stereotypic perception of their aptitudes, interests, and capabilities. Discouraging women from entering "inappropriate" areas or courses.

   Solution: Training programs for faculty to help overcome stereotypes about female aptitudes and interests.

2. Problem: Differences in the type and/or quality of instructional interaction between faculty and

female/male students, e.g., calling on males more often; selecting males more often to demonstrate a process; asking rote memory questions of females but analytic reasoning questions of males, etc.

Solution: Analysis of classroom interactions and a review of these with faculty to sensitize them to their different treatment of males and females.

3. Problem: Tendency of male faculty and students to over-stereotype women when they are represented only in token numbers.

Solution: Analysis of numbers of women students in classes and programs; efforts to increase the number of women both via recruitment and via structural changes (such as offering a relatively small enrollment course less frequently) so that the probability of having more than one woman per course session is increased; training of faculty and students to be aware of the stereotyping processes which affect "token" women and minorities and to help them change their behavior and/or to react appropriately to being the victim of such stereotyping.

C. Training - Sponsorship/Mentorship

1. Problem: Male faculty less willing to serve as sponsors/mentors for female students than for males.

Solution: Encouragement of sponsorship/mentorship relations, possibly workshops to discuss specific problems in these relationships (e.g., fear of it being viewed as a sexual interest in the female); helping male faculty become more comfortable in working with females.

2. Problem: Lack of female faculty to serve as role models and mentors.

Solution: Efforts to hire more women at the senior faculty level; bringing in senior women as visiting professors; encouraging cross-institutional activities to better utilize the relatively small supply of senior women.

3. Problem: Women faculty with "queen bee" syndrome unwilling to serve as role models or mentors for other women.

Solution: Training programs for women senior faculty to acquaint them with the importance of support systems for younger women and with ways to implement them without a threat to their own position.

4. Problem: Difficulties in developing adequate faculty contact with part-time students so that they can receive the same kinds of informal professional development as do full-time students.

Solution: Better understanding of all the reasons why women are more likely to be part-time students (see A4); provision of support (both financial and

via services like child care) that will make it possible for more women students to attend full time; counseling to sensitize students and faculty to the extent and importance of professional development learned from out-of-classroom contacts; development of special programs where part-time students can work with faculty as research assistants.

5. Problem: Difficulty for women students to develop networks with other women sharing their professional interests, problems, and concerns.

   Solution: Development, through AERA or other similiar organizations, of more active programs for women students.

6. Problem: Lack of support and encouragement for women and minority students interested in doctoral research in areas such as women's studies and black studies or for the development of alternative theoretical models that challenge traditional thinking.

   Solution: Small grants for such research.

II. First Five Postdoctoral Years

A. Postdoctoral Education

Problem: Lack of postdoctoral training programs or internships for women in educational research.

Solution: Design and fund such programs; provide financial incentives to research and development centers, employers, etc., to provide postdoctoral internships for women researchers.

B. Initial Job Placement

1. Problem: Selection criteria and job policies that assume the traditional white male life style.

   Solution: Review of job criteria to include only items relevant to job competency; more flexibility in job structuring; provision of programs and services (e.g., child care) that will make it easier for women to accept employment.

2. Problem: Women with training and experience identical to men hired for lower level jobs, or for less salary at the same level, than men.

   Solution: Review of hiring and salary practices; training programs to sensitize prospective employers to the kinds of sex-stereotyped expectations (e.g., women's lack of work commitment) which lead to this.

3. Problem: Different job expectations for males and females (e.g., women are more interested in teaching than in research).

   Solution: Training programs to sensitize prospective employers to sex-stereotypes which underlie such differential expectations.

4. Problem: Women's lower expectations for their own careers and/or the willingness to let their career be secondary to that of their spouse.

   Solution: Better information about career opportunities for women in educational research; data about salaries, career success of women now in field.

5. Problem: Difficulties associated with being socialized into a new career and/or into different status; particular difficulties for the solo or token women in an employment setting or group.

   Solution: Encourage employers to make special efforts to help new women employees learn about the job; assign senior female or male staff to work with or help in the occupational socialization of new women employees; provide incentives for senior staff sponsorship/mentorship of new female employees; provide financial incentives for large institutions, centers, labs or regional groups to hold workshops and training sessions to facilitate the professional development of women researchers; encourage professional organizations (probably by providing financial support) to design and develop informal regional or topical networks for women new to the field of educational research.

C. Early Career Development

1. Problem: Receiving research funding with little or no published research.

   Solution: Funding agencies should be encouraged to earmark a small percentage of their general grant funds to be given only to individuals who have received the doctorate within the preceding five years.

2. Problem: For researchers employed in colleges and other settings where they must teach as well as do research, balancing the initial demands of both developing new courses for teaching and opening new research areas.

   Solution: Special pretenure sabbaticals for young researchers to provide a semester free from teaching responsibilities so they can concentrate on their research.

3. Problem: Becoming aware of institutional and/or departmental systems and practices which may support researchers (e.g., availability of personal research funds, money to travel to professional meetings, etc.) and how to obtain this help.

   Solution: Departments having such special funds should be monitored to see that their availability is announced to all in writing and not verbally communicated via the "old boys network." Professional organizations could provide travel

funds to young researchers presenting papers if their institution does not provide such help.

4. Problem: Developing professional relationships with older researchers who will serve as mentors and/or sponsors.

   Solution: See II.B.5 above. Professional organizations could act as a clearinghouse to put young researchers from institutions where they are not able to find such support in touch with individuals who can act in this role.

5. Problem: Developing networks of contemporaries who share similar professional interests and/or similar problems of professional development.

   Solution: Funding agencies could sponsor annual or semi-annual conferences for all individuals receiving grants from them for research relating to women and/or for women researchers. The purpose of these conferences would be to allow the individuals to share their interests and problems in a nonjudgmental, mutually supportive atmosphere, to learn from each other, and to establish linkages with other researchers for possible future collaborative work.

6. Problem: Difficulty in being funded for research relating to women and/or for research that challenges traditional practices.

Solution: Funding agencies should designate a certain proportion of their grants for research relating to women and/or for innovative research that challenges traditional practices.

7. Problem: Coping with the double bind of being both young and female; working with male peers.

Solution: Focus attention on professional skills and competencies; be task-oriented.

III. Intermediate Professional Years

A. Making Career Transitions

1. Problem: Developing new skills (such as administration and budgeting) needed for upward mobility and/or status transitions.

Solution: Professional organizations or funding agencies could sponsor workshops or training programs to increase the research management skills of women; internships in research administration in funding agencies and research centers.

2. Problem: Keeping up-to-date in areas of special research interests.

Solution: Continuing professional education activities in colleges; training programs held in conjunction with professional meetings; for individuals in institutions that do not provide sabbaticals, funding agencies could provide awards for women to participate in programs to improve and update

their research skills. Special updating and research reentry programs should be devised for women who have taken time out for childrearing and/or who have worked part time during the childrearing years.

3. Problem: Supervising males, especially those who may feel uncomfortable with or resentful of female leadership.

   Solution: Training programs for women researchers who are project directors and/or administrative interns to teach them about the interpersonal dynamics of such situations and the techniques for dealing with them.

4. Problem: Making institutional/organizational changes for improved career opportunities; making status changes within an institution or organization.

   Solution: Counseling programs for women considering career changes to emphasize the positive aspects of making career changes and to lower fear of success; internships outside the organization for women who have been selected for status changes.

5. Problem: Difficulty in being evaluated for tenure or other status change if research has been in an area

outside of those typically done in the department or institution (e.g., women's studies or non-traditional education).

Solution: Evaluation from experts outside the institution (funding agencies and/or professional organizations could serve as a clearinghouse to identify individuals who could assist institutions with such assessment).

6. Problem: Becoming visible in the profession.

   Solution: Active participation in professional organizations; present papers and participate in other ways in the meetings of professional organizations; use mentor, sponsor, and network contacts.

7. Problem: Helping other women achieve professional recognition.

   Solution: Serving as a mentor/sponsor for younger women; involving younger women as research collaborators in professional organization programs and activities; helping younger women contact other researchers to develop their own networks.

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